

Nutrition Fact Sheet

An information update for WIC staff

■ TYPE 2 DIABETES

Type 2 diabetes is a form of diabetes in which the pancreas makes insulin, but not enough to satisfy the body's needs. This may be due to less insulin being produced or it may be due to insulin losing its effectiveness in promoting glucose utilization. Insulin is a hormone that enables the body to use the sugar, glucose. As less glucose is used, it builds up in the blood and hyperglycemia results. Type 2 diabetes is relatively common; 1.6 million Texans, or 12 percent of the population, have either type 1 or type 2 diabetes. Ninety percent of these have type 2.

WHO GETS TYPE 2 DIABETES?

Individuals with type 2 diabetes frequently have family members with type 2 diabetes. And they are usually overweight. More women than men get type 2 diabetes. If a woman had gestational diabetes during pregnancy, she is at a very high risk for developing type 2 diabetes later in life. Blacks, Asians and Hispanics also have a higher rate of type 2 diabetes than other groups of people. There has been an alarming trend in the last few years of children developing type 2 diabetes. As more children become obese, more children are developing type 2 diabetes.

CAN TYPE 2 DIABETES BE PREVENTED?

A person's lifestyle influences the development of type 2 diabetes. Sedentary people develop the disease more often than people who get regular physical activity. Regular physical activity is one way to prevent type 2 diabetes because it helps the body use glucose effectively and helps control weight.

Keeping weight within normal limits is very important in preventing type 2 diabetes. The body is able to use the insulin it produces more efficiently when a person is at a healthy weight for height. Along with physical activity, a healthy eating pattern is necessary to control weight.

WHY MANAGE DIABETES?

The complications of diabetes can be prevented or delayed by keeping blood sugar in a normal range. The complications of uncontrolled diabetes (high blood sugar) are slow to appear, but they can be severe. Complications of diabetes can cause blindness, kidney failure, heart disease, stroke, and painful nerve problems. Preventing them is the overall goal of diabetes management.

HOW DO PEOPLE MANAGE TYPE 2 DIABETES?

The body does make some insulin in type 2 diabetes. For some people, these lower insulin levels may be enough to manage their disease without drugs. They may be able to control blood sugar by following a healthy eating plan and getting regular physical activity. Management by altering lifestyle works for many people early in the disease, just after diagnosis. When diabetes cannot be managed by lifestyle changes alone, insulin-regulating drugs are used. Insulin-regulating drugs can increase insulin production or allow the body to use insulin more efficiently.

For definitions of terms used in this fact sheet, see the "Glossary of Diabetes Terms" in the Type 1 Diabetes Fact Sheet (No. 24 5/02).

Diet

The Food Guide Pyramid, carbohydrate counting or the American Diabetes Association exchange list can be followed to control blood sugar.

The Food Guide Pyramid — The Food Guide Pyramid offers a great deal of flexibility and is easy to learn. People with diabetes can use the Food Guide Pyramid to make daily food choices.

Carbohydrate Counting — With carbohydrate counting, only the carbohydrate intake is limited. While protein and fat intake are important for overall health, only carbohydrate intake affects the regulation of blood sugar. A specified amount of carbohydrate is eaten at each meal and snack. The amount of carbohydrate and insulin are balanced to control blood sugar.

The American Diabetes Association Exchange List — With this plan, the individual calculates exact amounts of carbohydrate, fat and protein needed at each meal and snack. All the foods must be eaten as listed on the meal plan. Typically, each of the food groups is included at each meal. Insulin balances the food intake to keep blood sugar under control.

People with diabetes need to eat meals and snacks at the times indicated on their meal plan. Meals should not be more than 4½ or 5 hours apart. Portion sizes and second helpings should be controlled. They also need to:

- Limit fruits to one small piece for lunch and supper, avoiding fruits at breakfast and fruit juices.
- Limit milk to two cups of skim or fat-free milk per day.
- Avoid foods high in fats.
- Increase the use of high-fiber foods.

- Use sugar substitutes and avoid the use of sugar and sweets.
- Avoid alcoholic drinks.

A registered dietitian (R.D.) can help each person find the best meal plan to both manage her diabetes and meet her food preferences.

Weight loss

Weight loss, even a few pounds, can also help control type 2 diabetes.

Medications

If diet, exercise and weight loss do not lower blood sugar, there are many medications available to treat type 2 diabetes. Each medication acts differently, but all bring blood glucose to normal levels. The type of drug which works for each individual varies. Some people may also need daily insulin injections to control blood sugar.

Monitoring

Daily blood-sugar monitoring is an important part of managing diabetes. People with diabetes check their blood sugar by pricking their finger with a lancet and placing a drop of blood in a glucometer. The glucometer reads the amount of sugar in their blood. An individual with diabetes can then adjust what they eat or how much insulin they take to control blood sugar.

Medical checkups

Regular medical care is also very important for people with diabetes. Medical staff check for signs of complications such as nerve damage or kidney problems. They also teach people with diabetes lifestyle skills such as foot care to avoid amputation. Medical staff also adjust medications or insulin if blood sugar is out of control. Any person with diabetes should see her doctor or clinic on a regular basis.

WHAT CAN WIC STAFF DO?

Diabetes can be difficult to handle on a day-to-day basis for many people. In part, this is because it is a silent disease. Even while feeling fine, people

with diabetes must make food choices that are not always convenient. Food can cease to be a pleasure and become a drug that must be kept in balance with medications or insulin injections. In addition, the medical care that is needed can be both time consuming and expensive. The benefits of diet and medical care will only be realized years later. At best, the benefits will be the absence of complications.

WIC staff can provide support and information to people with diabetes in the following ways.

Promoting medical care

Ask if clients are getting regular medical care for their diabetes. If they are not, provide referrals for women and children with type 2 diabetes. Follow up at subsequent clinic visits by asking if they received medical care. Make sure that each person has seen an R.D. If they have not, refer them to a WIC R.D. or another R.D. in the community for nutritional counseling.

Providing group classes

Several classes cover information useful to people with diabetes. Classes on weight control, the Food Guide Pyramid, 5 a Day, low-fat food choices and high-fiber foods are all appropriate choices for people with type 2 diabetes.

Watching for *Acanthosis nigricans* in children

Acanthosis nigricans is a rough, dark discoloration of the skin which looks like dirt, but will not wash off. It can be on the back of the neck, back of the hands or in skin folds anywhere on the body. Children with the condition are typically overweight or obese. Refer children to a physician or clinic for testing. If tests show that the children are hyperinsulinemic, WIC staff can work with the doctor and parents to achieve a normal weight for height. Counseling on a healthy eating pattern and exercise should help weight loss.

Providing information to women who had gestational diabetes

Women who had gestational diabetes during pregnancy often develop type 2 diabetes within a few years, especially if they remain overweight. Refer them for postpartum blood-sugar testing. Tell them that they can help prevent getting type 2 diabetes by:

- Eating a healthy diet by following the Food Guide Pyramid.
- Getting regular physical activity.
- Maintaining a healthy weight.

Encouraging clients

Individual counseling is a time to offer support and encouragement for people with Type 2 diabetes. Ask if people are:

- Following their eating plan.
- Getting regular physical activity.
- Losing weight, if necessary.
- Taking medications or insulin as prescribed.
- Checking their blood sugar and keeping it as normal as possible.

Remember to be compassionate when people are having a hard time following the guidelines to manage their diabetes. Help them find ways to stay motivated to make healthy choices.

References

Stuart, C.A., et al. "Acanthosis Nigricans as a Risk Factor for Non-Insulin Dependent Diabetes Mellitus." *Clinical Pediatrics* (1998): 73–79.



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